Appl. No. 10/605,097
Amdt. dated July 31, 2006
Reply to Office action of May 11, 2006

Amendments to the Specification:

The specification has been amended to correct various grammatical errors.

Please replace paragraph [0005] with the following amended paragraph:

5   An optical disk drive first identifies the type of an optical disk, sets up an initial value of some variables required to read the optical disk, and stores these variables into a variable memory. For example, the same ~~variablescan~~ variables can be utilized to read CDs of different standards and to write CDs of different standard. In case of DVDs, variables differ according to different standards. For example, the same variables can be
10   utilized to read DVD-ROM, DVD-R, DVD-RW, DVD+R, and DVD+RW, but variables used to write DVD-R and DVD-RW differs from variables used to write DVD+R and DVD+RW. In case of DVD-RAM, the reading variables and writing ~~variablescan~~ variables can be utilized to read and write DVD-RAM. Therefore, an optical disk drive predetermines addresses in a variable memory to provide different variables required to
15   read and write optical disks of different types.

Please replace paragraph [0009] with the following amended paragraph:

It is therefore a primary objective of the present invention to provide ~~amethod~~ a
20   method for accessing a variable memory of an optical disk drive to solve the problems mentioned above.

Please replace paragraph [0015] with the following amended paragraph:

25   Please refer to Fig.2 showing the data arrangement of a variable memory 22 of an optical disk drive according to the present invention. The optical disk drive (not shown) supports CDDA, VCD, CD-ROM, CD-R, CD-RW, DVD-ROM, DVD-R, DVD-RW,

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DVD+R, DVD+RW, and DVD-RAM. The variable memory 22 is for storing variables required to read and write optical disks of different types. Since the optical disk drive reads only one optical disk at once, the variable memory 22 can provide only the variables required to read and write the optical disk inside the optical disk drive, so that

5   the variable memory 22 can be rearranged as shown in Fig.2. The variable memory 22 utilizes an SRAM of approximately 3KB, which can be divided into two areas according to the contents of data to be stored. A first area 24, using approximately 1KB, is for storing common reading variables. A second area 26 is for storing variables required to read and write optical disks of different types. When the optical disk drive reads another

10   disk of a different type, the variables stored in the second area 26 ~~arereplaced~~ are replaced by new variables. The common reading variables stored in the first area 24 are utilized when reading all kinds of optical disks. Thus, whatever the optical disk drive reads, the data stored in the first area will not be replaced.

15   Please replace paragraph [0016] with the following amended paragraph:

       Please refer to Fig.3 showing a flowchart of setting up variables of different types of optical disks. When an optical disk is inserted, the optical disk drive identifies the type of the optical disk. The optical disk types can be divided into CD, DVD-RAM, and DVD. In

20   a case of the disk being identified as a CD, the optical disk drive sets up an initial value ~~ofreading~~ of reading variables, reads a table of content (TOC) of the disk, then judges whether the CD is writable or not. If the disk is read-only such as a CD-ROM, the setup is finished. If the disk is writable, such as CD-R and CD-RW, the optical disk drive sets up an initial value of the writing variables and then reads recording data of the disk to finish

25   the setup. In case of the disk being identified as a DVD-RAM, the optical disk drive sets up reading variables of the disk, reads lead-in data, sets up initial value of writing variables, and then reads recording data of the disk to finish the setup. In case of the disk being identified as a DVD, the optical disk drive sets up an initial value of reading

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variables, reads a lead-in data, and then judges whether the DVD is writable or not. If the disk is read-only such as a DVD-ROM, the setup is finished. If the disk is writable, such as DVD minus and DVD plus, the optical disk drive sets up initial value of the writing variables and then reads recording data of the disk to finish the setup.

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Please replace paragraph [0017] with the following amended paragraph:

Assume that at addresses 8000(H)-8C00(H) in the variable memory 22, the first area 24 uses 8000(H)-83FF(H) for storing common reading variables and the second area 26
10   uses 8400(H)-8C00(H) for storing variables for reading and writing optical disks in different types. When a CD is inserted, the optical disk drive stores necessary reading ~~variablesbeginning~~ variables beginning at 8400(H). If the CD is writable, such as CD-R or CD-RW, the optical disk drive stores necessary writing variables beginning at 8700(H). After reading and writing the CD, when a DVD is inserted, the optical disk drive stores
15   necessary reading ~~variablesbeginning~~ variables beginning at 8400(H) so that the new reading ~~variablesreplace~~ variables replace the originally stored area. If the DVD is writable such as DVD-R, DVD-RW, DVD+R or DVD+RW, the optical disk drive stores necessary writing ~~variablesbeginning~~ variables beginning at 8700(H) so that the new writing ~~variablesreplace~~ variables replace the originally stored area. If a DVD-RAM is
20   inserted, the optical disk drive stores necessary reading ~~variablesbeginning~~ variables beginning at 8400(H) so that the new reading ~~variablesreplace~~ variables replace the originally stored are, and the optical disk drive also stores necessary writing ~~variablesbeginning~~ variables beginning at 8700(H) so that the new writing ~~variablesreplace~~ variables replace the originally stored area.

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Please replace paragraph [0018] with the following amended paragraph:

As described above, the optical disk drive according to the present invention, stores

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the reading variables necessary to optical disks of different types in the same address 24 in the variable memory 22, and the writing variables necessary to optical disks of different types in another address 26 in the variable memory 22. When another disk is read, the new reading variables and writing variables will replace those originally stored.

5   Therefore, even if the optical disk drive supports several types of optical disks, only the variable memory 22 of the same capacity is required. The first area 24 of the variable memory 22 is for storing common reading variables and the stored data will not bereplaced be replaced. The second area 26 of the variable memory 22 is for storing reading and writing variables for different types of optical disks and can be replaced when

10   another disk is inserted. And even the initial address of reading variables and writing variables for different disc type can be different.

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